EG&G ROCKY FLATS

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INTEROFFICE CORRESPONDENCE

DATE: May 11, 1993

TO: Distribution

FROM: J. A. Ledford, Solar Ponds Remediation Technical Support, Building 080, x8673 JAL

SUBJECT: RESULTS OF MEETING CONCERNING B910 EVAPORATOR LEAKS - JAL-028-93

A meeting was held on May 11, 1993 to resolve issues associated with leaks in the Building 910 evaporators. The following personnel attended the meeting:

F. Gerdeman	RFO/WOB	S. Howard	RFO/ERD
S. Kozel	E&T	S. Polednick	E&T
R. Norton	Rad Engr	K. London	ERM
R. Boyle	ERM	B. Trop	WO
J. McKaig	WPS	E. OToole	RFO/ERD
D. Ericson	FPM	C. Russel	WTS
M. Austin	E&T	P. Edrich	RRP
R. Sledd	E&T	P. Larsen	LWSO
J. Brittingham	E&T	R. Dunn	LWSO
A. Ledford	ERM		

The meeting opened with a general synopsis of the experience gained to date with leaks in the system. It appears that the leaks come from two major sources: pump seals and piping system joints. Since investigation has revealed that the leaking pump seals are physically damaged and require replacement, the expectation is that leakage from that source will be essentially eliminated when replacement is completed. Leaks from piping system joints can be further divided into categories defined by the type of joint (plastic-to-metal screwed, plastic-to-plastic screwed, plastic-to-plastic flanged, etc.) Of these, plastic-to-metal screwed joints exhibit the most severe leakage problem. It was stated that there are more than 100 such joints in the Licon-supplied systems, and that all process fluids are involved. It should be noted that all of the leaks are within the Licon equipment. Further, it was stated that the leaks are, in general, transitory in that they occur almost exclusively during start-up when significant temperature gradients and variations exist.

The question was posed as to whether leakage as described would result in a requirement, in accordance with RCRA, to terminate operation of the process. Personnel knowledgeable of RCRA stated that the regulations do call for termination of operation, drainage of the system, and repair of the leak. There is no established *de minimus* leakage quantity which must be exceeded before the requirement to terminate operations would become effective; therefore, any leak would require shut-down.

It was acknowledged that discussions with the regulators could result in relaxation of this requirement if effective compensatory measures (drip trays, tertiary containment of leaking joints, etc.) were implemented and if statements could be made that the problem is limited to a period

of only *X* minutes during start-up and that no more than *Y* gallons of fluid would leak. Further, it was stated that the regulators would seriously consider such discussion only in the event that it could be shown that every reasonable effort had been expended to render the system leak-tight without success. It was decided that this issue will be discussed at the next scheduled meeting with the regulators which will be held on May 18, 1993. Prior to the meeting, it will be necessary to identify all previous and existing leaks, characterize and quantify them, and document what corrective actions have been taken. Additionally, an analysis should be made of the standards (ASTM, ANSI, etc.) which apply to the process equipment and the level of compliance achieved in our implementation.

The meeting then addressed technical issues concerning further action that should be taken to eliminate leakage. One suggestion called for replacing all screwed plastic-to-metal joints with flanges. There are approximately 30 to 40 such joints of which approximately 10 are in positions which would require pipe re-alignment before the flanges could be installed. It was decided that this work could be performed as "minor modifications" which would not require case-by-case engineering or work authorization.

Another suggestion involved identifying a better thread sealant ("dope") which could be applied to the existing joints. It was decided that Licon should be contacted to discuss methods and materials they use to eliminate leaks, and that users of Licon equipment should be similarly polled. Also, vendors and suppliers of sealants should be contacted for their technical support.

Finally, after the above actions have identified solutions, data should be collected detailing the corrective action taken for each joint and the results achieved. This record will serve to validate the most effective technique for each category of pipe joint in addition to being essential evidence of expenditure of "reasonable effort" in the event that regulatory variance is sought in the future.

ACTIONS

1. Develop a matrix of information which includes the joint identification, joint type, actions taken, results achieved

   J. D. McKaig Due: 5/17/93

2. Contact Licon and Licon customers regarding their experience and recommendations

   J. J. Brittingham Due: 5/13/93

3. Identify standards that applied to process equipment and assess compliance

   M. R. Austin and D. R. Ericson Due: 5/14/93

4. Notify M. Johnson of need to include coolant leakage in contingency plans

   K. C. London Due: 5/14/93

5. Develop briefing/discussion with regulators for next meeting

   R. W. Boyle and K. C. London Due: 5/18/93

6. Develop methodology to collect data about future leaks and repair efforts

   J. D. McKaig Due: 5/19/93

7. Contact manufacturers, vendors, and suppliers for technical support

   J. J. Brittingham Due: 5/19/93

No follow-up meeting was scheduled; however, the above actions will be tracked in the Solar Ponds Action Center.

Distribution
M. Austin
R. Boyle
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R. Dunn
P. Edrich
D. Ericson
S. Kozel
P. Larsen
K. London
J. McKaig
R. Norton
S. Polednick
C. Russel
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Project Files